Motion and Sound

3-5 The student will demonstrate an understanding of how motion and sound are affected by a push and pull on an object and the vibration of an object (Physical Science)

3-5.5 Recall that vibrating objects produce sound and that vibrations can be transferred from one material to another.
Taxonomy level: 1.2-B Remember Conceptual Knowledge

Previous/Future knowledge: In 1st grade (1-5.3), students illustrated the fact that sound is produced by vibrating objects. Students will further develop the concept of sound energy being transferred to other materials and other forms of energy in 6th grade (6-5.2 and 6-5.4).

It is essential for students to know that sound vibrations are back and forth movements that occur very quickly.

- Vibrations can be transferred from one material to another causing that material to vibrate.
- Vibrations of materials causing sound can travel through solids, liquids, and gases, but they cannot travel through empty space where there are no particles of matter to vibrate.
- Sound moves better through some materials than others, for example, when a metal spoon is tied to a string and hit so that it vibrates, the sound can be heard through the string held to the ears better than through the air only.

It is not essential for students to know that sound vibrations travel at different speeds through different materials.

Assessment Guidelines:
The objective of this indicator is to *recall* that vibrating objects produce sound and that vibrations can be transferred from one material to another; therefore, the primary focus of assessment should be to remember that sound is produced by vibrating objects and to remember that a vibrating object can cause another object also to vibrate. However, appropriate assessments should also require students to *identify* the materials involved in the transfer of the vibrations of sound; or *recognize* on a picture or diagram the vibrating objects involved in the transfer of vibrations.